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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/692,846	10/19/2000	Courtney C. Konopka	66161	6249

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EXAMINER

EDOUARD, PATRICK NESTOR

ART UNIT

PAPER NUMBER

2654

DATE MAILED: 10/23/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.
09/692,846

Applicant(s)
KONOPKA ET AL

Examiner
PATRICK N. EDOUARD

Art Unit
2654



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Jul 19, 2002
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 and 26-56 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 and 26-56 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

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DETAILED ACTION

1. This Office Action is in response to communication filed 7/19/02 (paper #8). Claims 1-17 and new claims 26-56 are pending.

Response to Arguments

2. Applicant's arguments with respect to claims 1-17 and 26-56 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 17 is rejected under 35 U.S.C. 102(b) as being anticipated by Stanford et al (5,513,298).

Claim 17 is rejected under 35 U.S.C. 102(b) as being anticipated by Stanford et al (5,513,298)

Stanford et teach a method of speech recognition comprising: searching for an attention word based on a first context including a first set of grammar models (col. 7, line 20 to col. 8,

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line 62, his context 1 that includes an attention words (W1) and a language model (phoneme or triphone) and a word pair grammar;

switching upon finding the attention word to a second context to search for an open-ended user request, wherein second context includes a second set of models, grammar and lexicons (his context 2, that includes words or sentences, a language model (phoneme or triphone) and a word pair grammar.)

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wyard et al (Spoken Language System-beyond prompt and response) in view of Giuliani et al (Hands free Continuous Speech Recognition in Noisy Environment Using a Four Microphone Array).

Wyard et al teach a natural language interface control system for operating a plurality of devices comprising:

" feature extraction module coupled to the first microphone"(his speech recognizer"

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"a speech recognition module coupled to the speech recognition module; (His speech recognizer, page 193, his components of a spoken language system)and

"a device interface coupled to the natural interface module, wherein the natural language interface module is for operating a plurality of devices coupled to the device interface based upon non- prompted, open-ended natural language request from a user"(his prolog database, page 186, his system is based on a non-prompted to allow users to express their requirements more directly).

It is noted that Wyard et al teach the claimed invention but not explicitly teach a 3 dimensional microphone array. However, this feature is well known in the art as evidenced by Giuliani et al who teach a four microphone array. Therefore, one of ordinary skill in the art at the time invention was made would have it obvious to incorporate a four microphone array as taught by Giuliani into the natural language as taught by Wyard because it would improve the signal quality in a noisy environment (see Giuliani page 860).

It is further noted that the combination the combination teaches the claimed invention but does not explicitly teach the speech recognition can switch between different acoustic models and different grammars. However, this feature is well known in the art as evidenced by Stanford et al who teach an instantaneous context switching for speech recognition wherein the system comprises a plurality of context. each includes a plurality of words, a language models (phoneme or triphone) and word pair grammar at col. 7, line 20 to col. 62. Therefore, one having ordinary skill in the art at the time the invention was made would have it obvious to incorporate in the

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speech recognition of the combination a context switching module as taught by Stanford because it would provide a speech recognition capable of switching between different context using different language models and grammars that would render the system more versatile and adaptable to different tasks.

As per claim 3, Wyard et al wherein the speech recognition module utilizes an N-gram grammar (page 194, left column, his N-gram model).

As per claims 4 and 22, Wyard et al wherein the natural language interface module utilizes a Probabilistic context free grammar (page 193, right column, his FSN recognizer).

As per claims 20 and 21, Wyard et al teach applying speech recognition to the received attention word...user request (page 193, right column section 4.11 , his HMM language model).

7. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wyard et al (Spoken Language System-beyond prompt and response) in view of Giuliani et al (Hands free Continuous Speech Recognition in Noisy Environment Using a Four Microphone Array) and Stanford et al (5,513,298) as applied to claim 1 above, and further in view of Armstrong (5,885,002).

It is noted that the combination teaches the claimed invention but does not explicitly teach wherein the natural language interface abstracts each of the plurality of devices into a respective one of a plurality of grammar...plurality of devices. However, this feature is well known in the art as evidenced by Armstrong who teach in figure 16, a natural language interface that can

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controlled multiple devices such as robotic devices and digital controller. Therefore, one having ordinary skill in the art at the time the invention was made would have found it obvious to incorporate into the combination different grammar as taught by Armstrong because it would allow accurate control for each device.

8. As per claims 8- 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wyard et al (Spoken Language System-beyond prompt and response) in view of Giuliani et al (Hands free Continuous Speech Recognition in Noisy Environment Using a Four Microphone Array) and Stanford et al (5,513,298).

It is noted that the combination teaches the claimed invention but does not explicitly teach the natural language interface switches grammar, acoustic models ...of an attention word. However this feature is well known in the art as evidenced by Stanford et al who teaches an instantaneous switching context of speech recognition. However, this feature is well known in the art as evidenced by Stanford et al who teach an instantaneous context switching for speech recognition wherein the system comprises a plurality of context each includes a plurality of words, a language models (phoneme or triphone) and word pair grammar at col. 7, line 20 to col. 62. Therefore, one having ordinary skill in the art at the time the invention was made would have it obvious to incorporate in the speech recognition of the combination a context switching module as taught by Stanford because it would provide a speech recognition capable of switching

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between different context using different language models and grammars that would render the system more versatile and adaptable to different tasks.

9. Claims 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wyard et al (Spoken Language System-beyond prompt and response) in view of Giuliani et al (Hands free Continuous Speech Recognition in Noisy Environment Using a Four Microphone Array) and Stanford et al (5,513,298) as applied to claim 1 above, and further in view of Muhling (5,878,394).

It is noted that the combination teaches the claimed invention but does not explicitly teach a remote unit containing the first microphone, the speech recognition and the natural language. However, this feature is well known in the art as evidenced by Muhling who teach a speech control remote control. Therefore, one of ordinary skill in the art at the time the invention was made would have it obvious to recognize that the system of the combination could be a remote control as taught by Muhling because it would be a speech controlled remote control that would render the interface system more versatile.

10. Claims 26-54 comprises all the limitations of 1-17 and therefore rejected under the same rationale.

11. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

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Washington, D.C. 20231 or faxed to:

(703) 308-9051, (for formal communications intended for entry) Or:

(703) 305-9508 (for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park 11, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick N. Edouard whose telephone number is (703) 308-6725. The examiner can normally be reached on Tuesday-Friday from 07:30 a.m.-6:00 p.m.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold, can be reached on (703) 305-4386.

The facsimile phone number for this Art Unit is (703) 872-9314. Alternatively, facsimile messages may be sent directly to (703) 305-9644 where they will be stored in the examiner's voice mailbox (telling the examiner that a fax was received) and be automatically printed (i.e. - no delay by the examiner).

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Patrick N. Edouard

October 16, 2002



PATRICK N. EDOUARD
PATENT EXAMINER